

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q95836

Kazuhiko UEDA, et al.

Appln. No.: 10/586,858

Group Art Unit: 1796

Confirmation No.: 2917

Examiner: Robert S. LOEWE

Filed: October 27, 2006

For: PRESSURE SENSITIVE ADHESIVE COMPOSITION

SUBMISSION OF EXECUTED DECLARATION UNDER 37 C.F.R. §1.132

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith is a copy of an executed Declaration Under 37 C.F.R. §1.132 signed by Toyohisa Fujimoto.

Respectfully submitted,



William R. Childs
Registration No. 62,316

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: April 6, 2010

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In re application of:

Kazuhiko Ueda et al.

Serial No.: 10/586,858

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Examiner: LOEWE, ROBERT S

Title : PRESSURE SENSITIVE ADHESIVE COMPOSITION

DECLARATION UNDER RULE 132

Honorable Commissioner of Patents and Trademarks,
Alexandria, Virginia 22313-1450

Sir:

I, Toyohisa Fujimoto, a citizen of Japan and having postal mailing address of c/o Kaneka Corporation, 1-8, Miyamae-cho, Takasago-cho, Takasago-shi, Hyogo 651-2137, Japan, declare and say that:

In March, 1999, I was graduated from Graduate School of Engineering, Tohoku University, and received a master's degree in the field of chemistry;

Since April, 1999, I have been employed by Kaneka Corporation and engaged in the work of research and development of modified silicone for sealing materials in High Performance Polymers Division;

I am familiar with the technical field of the present invention;

I respectfully submit herewith my exact report;

In order to demonstrate the effect of the present invention, I have carried out the following experiments.

Object

The experiments are:

- 1) to demonstrate that the pressure sensitive adhesive compositions containing less (B) component compared to the compositions of Examples in the present application also provide the effect of the present invention;
- 2) to demonstrate that the pressure sensitive adhesive compositions containing less (C) component compared to the compositions of Examples in the present application also provide the effect of the present invention; and
- 3) to demonstrate that replacing (B) component with a component having more than 1.3 hydrolyzable silyl group and having a number average molecular weight of 3,000 to 10,000 lowers adhesive strength.

Preparation of polymer (P-1)

Each terminal hydroxyl group of Actcol P-23 (product of MITSUI TAKEDA CHEMICALS, INC., polyoxypropylene glycol) was converted to a metaloxy group, which was reacted with allyl chloride for introducing the unsaturated group into a terminus or termini. Thereafter, the terminal groups were reacted with 0.75 equivalent of methyldimethoxysilane to give a methyldimethoxysilyl group-terminated polymer (P-1) with a number average molecular weight of 4,000 (on the polystyrene equivalent basis) as determined by GPC.

Experiments 1 to 6

Pressure sensitive adhesive compositions were prepared by mixing the components shown in Table 1. Components except polymer P-1 were the same as those used in the Examples and Comparative Examples of the present application. Pressure sensitive adhesive films were prepared and evaluated as described in page 19, lines 17 to 20 and page 20, lines 19 to 27 in the specification of

the present application. Experiment 5 corresponds to Example 1 of the present application. Results are shown in Table 1.

Table 2 indicates the results of Examples 1 to 3 and Comparative Examples 1 to 3 of the present application for reference.

In Tables 1 and 2, amounts of (C) component, toluene and curing agent are relative to combined total of 100 parts by weight of (A) component and (B) component.

Results

Comparison between Experiments 2, 4 and 5 indicates that the pressure sensitive adhesive composition has a sufficient adhesive strength even when the amount of (B) component is less than 30 parts by weight relative to 100 parts by weight of (A) component.

Comparison between Experiments 2 and 1 or Experiments 4 and 3 indicates that the pressure sensitive adhesive composition has a sufficient adhesive strength even when the amount of (C) component is 40 parts by weight relative to 100 parts by weight of (A) component and (B) component in total.

Comparison between Experiment 5 and 6 indicates that polymer P-1 having more hydrolyzable silyl group compared to (B) component lowers adhesive strength.

Table 1

	Mn	Si group (eq)	Experiment 1	Experiment 2	Experiment 3	Experiment 4	Experiment 5	Experiment 6
(A) component	A-1	31,000	0.75	100	100	100	100	100
	A-2	26,000	0.85					
Comparative Component	A-3	10,800	0.75					
(B) component	B-1	4,300	0.4	10	10	20	20	30
	B-2	4,000	0.5					
Comparative Component	Arctol P-23	4,000	0					
	P-1	4,000	0.75					30
(C) component	YS Polyester S145	Amount relative to combined total of 100 parts by weight of (A) and (B)	40	50	40	50	50	50
	Toluene	Amount relative to combined total of 100 parts by weight of (A) and (B)						
Curing Agent	Orgazit TC-100	Amount relative to combined total of 100 parts by weight of (A) and (B)	4	4	4	4	4	4
	Results in the specification	Viscosity (Pa·s) Adhesive strength (N/25mm)					280.2	
	Viscosity (Pa·s) Adhesive strength (N/25mm)						30.6	
Additional data	Viscosity (Pa·s)	233.5	416.0	187.5	349.0	306.0	235.0	
	Adhesive strength (N/25mm)	18.0	25.5	20.5	27.0	26.2	1.3	

Table 2

		Mn	Si group (eq)	Example 1	Example 2	Example 3	Comparative Example 1	Comparative Example 2	Comparative Example 3
(A) component	A-1	31,000	0.75	100	100	100			
	A-2	26,000	0.85				100	100	100
Comparative Component	A-3	10,800	0.75						100
(B) component	B-1	4,300	0.4	30	40				
	B-2	4,000	0.5						
Comparative Component	Acted P-23	4,000	0						
	P-1	4,000	0.75						
(C) component	YS Polyester S145	Amount relative to combined total of 100 parts by weight of (A) and (B)		50	50	50	50	50	50
Toluene		Amount relative to combined total of 100 parts by weight of (A) and (B)							50
Curing Agent	Orgatix TC-100	Amount relative to combined total of 100 parts by weight of (A) and (B)		4	4	4	4	4	4
Results in the specification	Viscosity Adhesive strength	(N/25mm)		280.2	225.6	232.2	279.5	918.4	290.4
				30.6	25.4	26.8	7.6	10.2	9.8

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed this 11th day of March, 2010

Toyohisa Fujimoto

Toyohisa Fujimoto